

AMENDMENTS TO THE CLAIMS

1. (Previously Presented) An apparatus comprising:
a central member having a proximal end and a distal end;
a leg member, attached to a distal end of said central member, wherein at least a portion of said leg member is adapted to permit production of an expanded distal radius in the apparatus;
a suture attached to a proximal portion of said central member;
an expander member, a distal portion of which is aligned co-axially through said central member;
a pusher member aligned co-axially around a proximal portion of said expander member, said pusher member adapted to prevent the movement in a proximal direction of said central member;
and
a pre-biasing device adapted to selectively force at least a portion of said apparatus in a distal direction.
2. (Currently Amended) The apparatus of claim 1, ~~further comprising:~~ wherein said apparatus has an outer sleeve surrounding said apparatus, wherein said outer sleeve is adapted to be fitted to an endoscope.
3. (Previously Presented) The apparatus of claim 1, wherein said pre-biasing device comprises a member selected from the group consisting of a compressed gas compartment, a coil spring, a torsion spring, an electromagnetic device, a hydraulic device and a chemical device.
4. (Original) The apparatus of claim 1, further comprising:
a tether connected to a proximal portion of said expander member.
5. (Currently Amended) An apparatus comprising:
a central member adapted to permit the passage of a penetrating member adapted to penetrate tissue; and
a first substantially straight leg member having first and second ends connected to a distal portion of said central member at one end,
wherein said first substantially straight leg member is adapted to curl radially to produce an

increase in a distal radius of said apparatus,
and wherein said increase is adapted to restrain motion of said apparatus in a proximal direction.

6. (Original) The apparatus of claim 5, wherein said first leg member employs a technique for producing an increased radius selected from the group consisting of self-expanding and manually expandable.
7. (Original) The apparatus of claim 5, wherein said first leg member is adapted to expand in radius in response to the proximal motion of said penetrating member.
8. (Original) The apparatus of claim 5, wherein said first leg member comprises a shape memory alloy.
9. (Original) The apparatus of claim 5, wherein said first leg member comprises a first end connected to a distal portion, and a second end that extends approximately proximally prior to increasing said radius of said apparatus.
10. (Original) The apparatus of claim 5, wherein said first leg member comprises a first end connected to a distal portion, and a second end that extends approximately distally prior to increasing said radius of said apparatus.
11. (Currently Amended) The apparatus of claim 5, wherein said apparatus comprises an encompassing sheath and said first leg member is adapted to expand in radius in response to the proximal motion of an said encompassing sheath.
12. (Original) The apparatus of claim 5, further comprising:
a second leg member connected to a proximal portion of said central member,
wherein said second leg member is adapted to produce an increase in a proximal radius of said apparatus,
and wherein said increase is adapted to restrain motion of said apparatus in a distal direction.
13. (Currently Amended) The apparatus of claim 12, wherein said apparatus comprises an encompassing sheath and said second leg member is adapted to expand in radius in response to a proximal motion of an said encompassing sheath.

14. (Currently Amended) The apparatus of claim 12, wherein said apparatus comprises one or more rubber bands and said second leg member is adapted to expand in radius by means of said one or more rubber bands.
15. (Original) The apparatus of claim 5, wherein said central member is adapted to be a stent.
16. (Original) The apparatus of claim 5, wherein said central member is adapted to be expandable.
17. (Currently Amended) ~~The apparatus of claim 5,~~ An apparatus comprising: a central member adapted to permit the passage of a penetrating member adapted to penetrate tissue; and a first leg member connected to a distal portion of said central member, wherein said first leg member is adapted to produce an increase in a distal radius of said apparatus.
and wherein said increase is adapted to restrain motion of said apparatus in a proximal direction, wherein said central member comprises a structure selected from the group consisting of mesh and web.
18. (Original) The apparatus of claim 17, wherein said central member comprises a shape memory alloy mesh.
19. (Original) The apparatus of claim 5, further comprising:
a tab connected to said central member and directed radially inward,
said tab being adapted to translate force in an axial proximal direction into force in a radially outward direction.
20. (Currently Amended) ~~The apparatus of claim 5, further comprising~~ An apparatus comprising: a central member adapted to permit the passage of a penetrating member adapted to penetrate tissue;
and a first leg member connected to a distal portion of said central member,
wherein said first leg member is adapted to produce an increase in a distal radius of said apparatus,
wherein said increase is adapted to restrain motion of said apparatus in a proximal direction;
and a tether connected to a proximal portion of said central member.

21. (Original) The apparatus of claim 20, wherein said tether is adapted to be connected to a sensor.
22. (Original) The apparatus of claim 21, wherein said sensor is selected from the group consisting of a camera, an electromagnetic sensor, a manometry sensor, a pH probes, and probes for lumen content sampling.
23. (Currently Amended) The apparatus of claim 20, wherein said apparatus comprises a treatment delivery device and said tether is adapted to be connected to a said treatment delivery device.
24. (Original) The apparatus of claim 23, wherein said treatment delivery device is selected from the group consisting of pharmaceutical delivery devices, chemotherapy delivery devices, treatment activation devices, photodynamic therapy devices, radioisotope containment devices, radioisotope delivery devices, thermal delivery devices, radiofrequency delivery devices, radioisotope containers, thermal delivery devices, photochemical delivery devices, radio frequency delivery devices, stimulating electrode devices, pacemakers, and nerve stimulators.
25. (Original) The apparatus of claim 5, wherein said apparatus is adapted to be used with a device selected from the group consisting of an endoscope and an echo-endoscope.
26. (Original) A method comprising the steps of:
anchoring a tissue to a luminal structure, wherein said tissue is anchored by use of an apparatus of claim 6 that is adapted to penetrate through said luminal structure and at least into said tissue, wherein said tissue is held in approximately constant position relative to at least a region of said luminal structure.
27. (Original) The method of claim 26, wherein said tissue comprises a second luminal structure.
28. (Original) The method of claim 26, where said luminal structure comprises a tissue selected from the group consisting of a bladder, uterus, ductal structure, tracheo-bronchial tree, vein, artery, and segment of bowel.

29. (Original) The method of claim 27, where said second luminal structure comprises a tissue selected from the group consisting of a bladder, uterus, ductal structure, tracheo-bronchial tree, vein, artery, and segment of bowel.

30. (Previously Presented) A tissue anchoring apparatus comprising:
a penetrating member with a releasable tissue anchor;
pre-biasing means for pre-biasing the penetrating member forward in an axial direction of the apparatus;
release means for causing said pre-biased penetrating member to be released so that said penetrating member is projected forward in the axial direction of the apparatus; and
an attachment arranged to fix said penetrating member at an inlet port of a passage of an endoscope.

31. (Currently Amended) ~~A device~~ The apparatus according to claim 42, wherein said pre-biasing means comprises an outer sleeve adapted to enable adjustment of an exposed portion of said outer sheath.

32. (Currently Amended) ~~A device~~ The apparatus according to claim 30, wherein said pre-biasing means comprises a calibrating sleeve adapted to enable precise adjustment of a depth of penetration of a tissue layer.

33. (Currently Amended) ~~A device~~ The apparatus according to claim 30, wherein said pre-biasing means comprises a spring that is connectable to and disconnectable from said penetrating member, and wherein when said spring is disconnected from said penetrating member, said penetrating member is adapted to be manually controlled.

34. (Currently Amended) ~~A device~~ The apparatus according to claim 33, wherein said spring is a coil spring.

35. (Currently Amended) ~~A device~~ The apparatus according to claim 30, wherein said penetrating member comprises a distal end portion that is treated by sand-blasting to improve visualization by endoscopic ultrasound.

36. (Currently Amended) ~~A device~~ The apparatus according to claim 30, wherein said penetrating member comprises a distal end portion that protrudes past a distal end portion of said

outer sheath surrounding said penetrating member when said penetrating member is projected forward in the axial direction of the apparatus.

37. (Currently Amended) ~~A device~~ The apparatus according to claim 42, wherein said outer sheath is movable in a passage of said endoscope independently of said penetrating member.

38. (Currently Amended) ~~A device~~ The apparatus according to claim 30, wherein said apparatus is adapted for used in an echo-endoscope.

39. (Currently Amended) ~~A device~~ The apparatus according to claim 30, wherein said attachment comprises a screw attachment.

40. (Previously Presented) The apparatus of claim 1, wherein said central member is substantially hollow.

41. (Previously Presented) The apparatus of claim 5, wherein said central member is substantially hollow.

42. (Currently Amended) ~~A device~~ The apparatus according to claim 30, wherein said penetrating member is surrounded by an outer sheath.

43. (New) A tissue anchoring apparatus comprising:
a penetrating member with a releasable tissue anchor; said penetrating member being pre-biased forward in an axial direction of the apparatus;
a latch release for causing said pre-biased penetrating member to be released so that said penetrating member is projected forward in the axial direction of the apparatus.

44. (New) The apparatus according to claim 43, further comprising an attachment arranged to fix said penetrating member at an inlet port of a passage of an endoscope.

45. (New) The apparatus according to claim 43, further comprising an outer sleeve adapted to enable adjustment of an exposed portion of said outer sheath.

46. (New) The apparatus according to claim 43, further comprising a calibrating sleeve adapted to enable precise adjustment of a depth of penetration of a tissue layer.

47. (New) The apparatus according to claim 43, wherein said penetrating member comprises a distal end portion that protrudes past a distal end portion of said outer sheath surrounding said penetrating member when said penetrating member is projected forward in the axial direction of the apparatus.

48. (New) A method for anchoring a tissue to a luminal structure comprising the steps of: positioning an apparatus next to a wall of said luminal structure, releasing a pre-biased penetrating member such that said penetrating member is projected forward at least into said tissue,

advancing a first leg member wherein said first leg member is adapted to produce an increase in a distal radius of said apparatus, and wherein said increase is adapted to restrain motion of said apparatus in a proximal direction.

49 (New) The method of claim 48, wherein said tissue is anchored to said luminal structure and wherein said tissue is held in approximately constant position relative to at least a region of said luminal structure.